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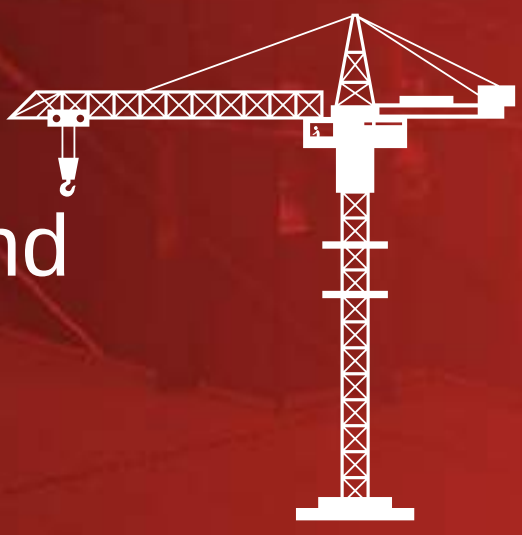
CIVIL ENGINEERING AND BUILDINGS

CONTRA DAM (VERZASCA DAM)



Tenero-Contra and Gordola

Client

Verzasca SA

Work duration

1960 - 1965

Designers

Studio di ingegneria Lombardi&Gellera

Company

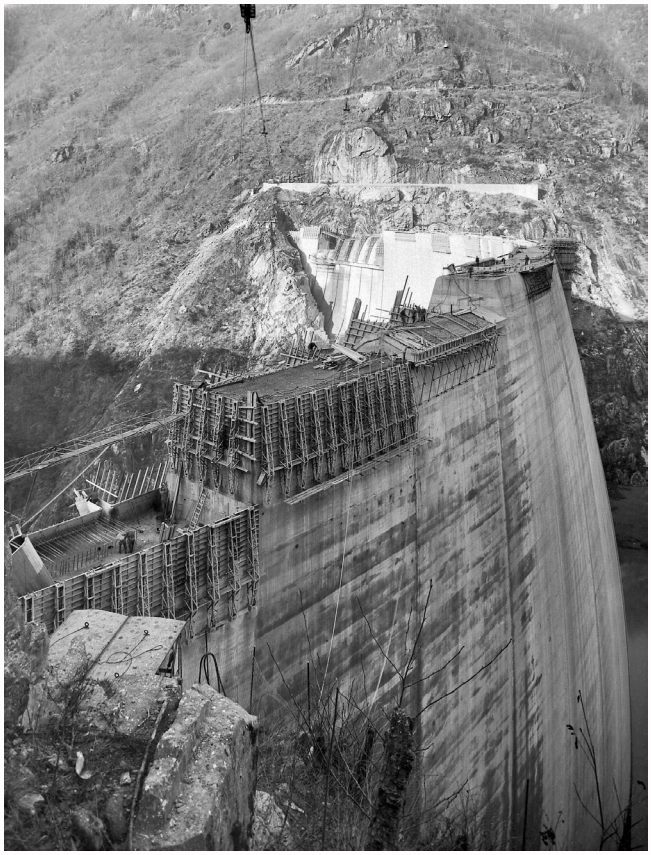
% 100 CSC

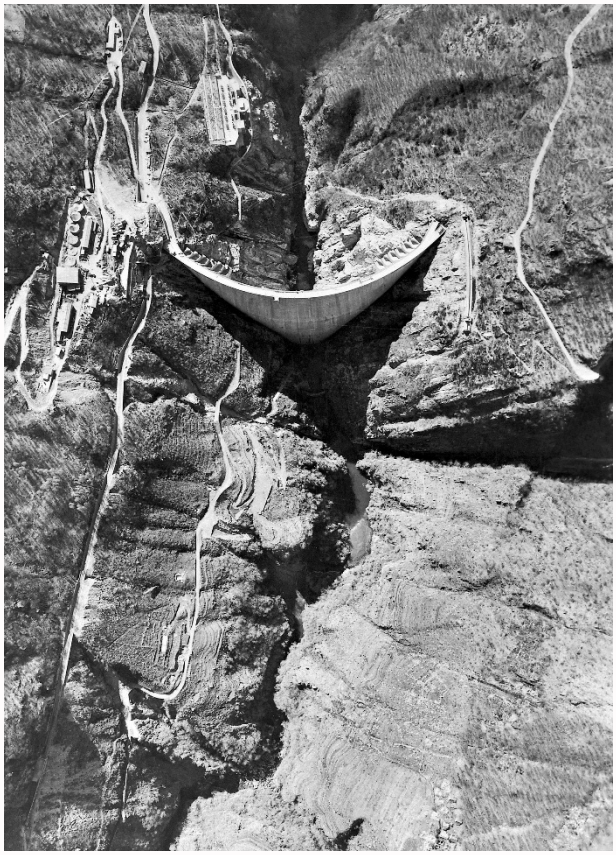
Scope of works

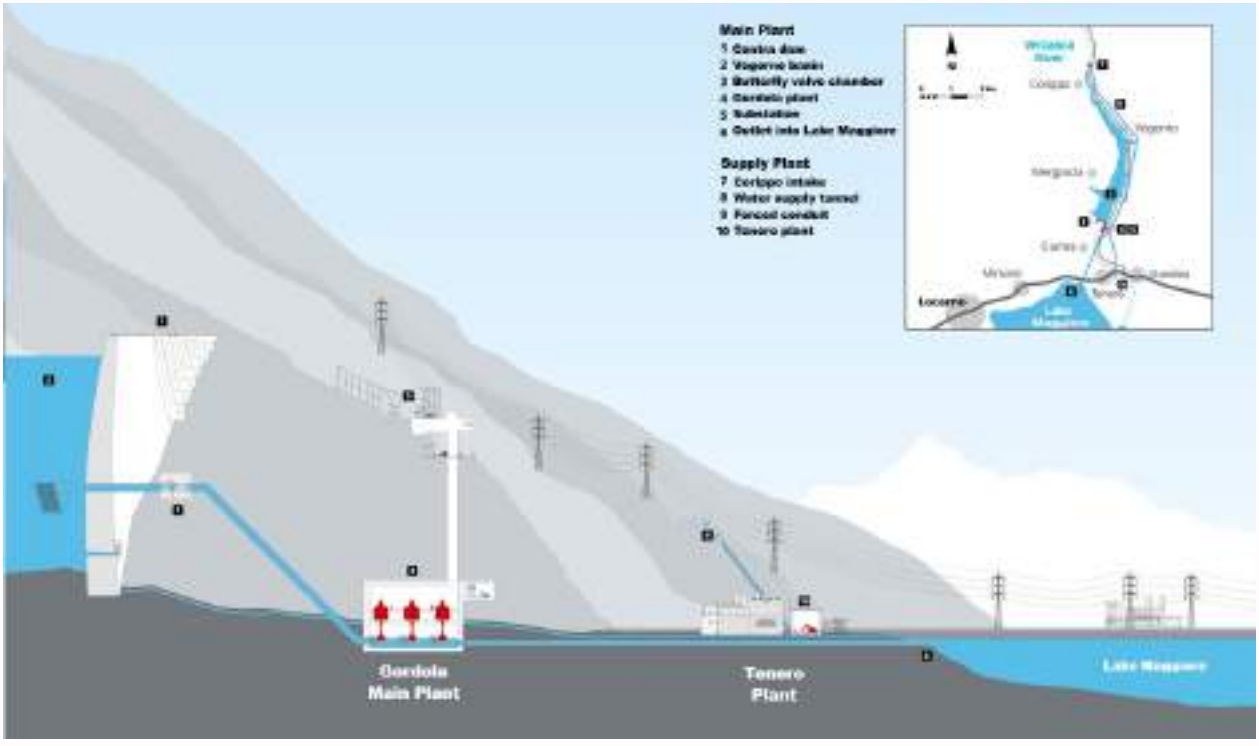
The Contra Dam, also known as the Verzasca Dam, is a double-curvature concrete arch dam located in the Verzasca Valley in Canton Ticino, Switzerland. The dam blocks the Verzasca River, forming Lake Vogorno, which represents the main storage element of the Verzasca hydropower system.

The stored water is abstracted on the left bank and conveyed to the underground Gordola power plant through an inclined shaft approximately 330 m long. The generating units are housed in a fully underground power station; consequently, only the surface buildings and the outdoor substation are visible. Environmental flow release in the downstream section of the river is ensured by the Tenero small power plant, located on the site of the former power station.

The structure was constructed using layered concrete placement, with careful control of deformations and stress distribution, in accordance with construction techniques typically adopted for large arch dams. The reservoir allows seasonal flow regulation and supplies the downstream hydropower plants, ensuring high operational reliability and energy efficiency. In addition to renewable energy production, the dam plays a strategic role in water resources management and hydraulic safety of the territory.







Main quantities

Concrete 660’000 m3
Earth and rockfill 32’000 m³
Rock 300’000 m³

Base thickness 25 m
Crest thickness 7 m
Crest length 380 m
Maximum height 220 m

Total spillway discharge capacity 1’600 m³/s
Bottom outlet discharge capacity 340 m³/s
Annual energy production247 GWh